

FULBRIGHT & JAWORSKI L.L.P.

A REGISTERED LIMITED LIABILITY PARTNERSHIP
600 CONGRESS AVENUE, SUITE 2400
AUSTIN, TEXAS 78701-3271
WWW.FULBRIGHT.COM

MBARRETT@FULBRIGHT.COM
DIRECT DIAL: (512) 536-3018

TELEPHONE: (512) 474-5201
FACSIMILE: (512) 536-4598

September 3, 2002

CERTIFICATE OF MAILING 37 C.F.R. 1.8	
I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231, on the date below:	
September 3, 2002	<i>Michael C. Barrett</i>
Date	Michael C. Barrett

Commissioner for Patents
Washington, DC 20231

Re: *U.S. Patent Application No. 09/883,109 entitled "APPARATUS AND METHOD FOR FLUID INJECTION" by Peter Gascoyne et al.*
Our Reference: UTSC:657US
Client Reference: MDA00-037

Sir:

Enclosed for filing in the above-referenced patent application is an Information Disclosure Statement, Form PTO-1449, and references (A1-A36, B1-B12, C1-C30).

No fees are believed to be due in connection with the filing of this Information Disclosure Statement, however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to the enclosed materials, the Commissioner is hereby authorized to deduct said fees from Fulbright & Jaworski Deposit Account No.: 50-1212/UTSC:657US.

Please date stamp and return the enclosed postcard evidencing receipt of these materials.

Respectfully submitted,

Michael C. Barrett
Michael C. Barrett
Reg. No. 44,523

RECEIVED
SEP 9 - 2002
TC 1700

MCB/cmb
Encl.: as noted

25203472.1



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Peter Gascoyne *et al.*

Serial No.: 09/883,109

Filed: June 14, 2001

For: APPARATUS AND METHOD FOR
FLUID INJECTION

Group Art Unit: 1741

Examiner: Unknown

Atty. Dkt. No.: UTSC:657US

RECEIVED
SEP 9 - 2002
TC 1700

CERTIFICATE OF MAILING
37 C.F.R. 1.8

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231, on the date below:

September 3, 2002
Date

Michael C. Barrett
Michael C. Barrett

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully requested that this Information Disclosure Statement be entered and the documents listed on attached Form PTO-1449 be considered by the Examiner and made of record. Copies of the listed documents required by 37 C.F.R. § 1.98(a)(2) are enclosed for the convenience of the Examiner.

In accordance with 37 C.F.R §§ 1.97(g), (h), this Information Disclosure Statement is not to be construed as a representation that a search has been made, and is not to be construed to be an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

The present Information Disclosure Statement is being filed prior to the receipt of a first Official Action reflecting an examination on the merits, and hence is believed to be timely filed in accordance with 37 C.F.R § 1.97(b). No fees are believed to be due in connection with the filing of this Information Disclosure Statement, however, should any fees under 37 C.F.R. §§ 1.16 to 1.21 be deemed necessary for any reason relating to these materials, the Commissioner is hereby authorized to deduct said fees from Fulbright & Jaworski Deposit Account No.: 50-1212/UTSC:657US.

Applicants respectfully request that the listed documents be made of record in the present case.

Respectfully submitted,

Michael C. Barrett

Michael C. Barrett
Reg. No. 44,523
Attorney for Applicants

FULBRIGHT & JAWORSKI L.L.P.
600 Congress Avenue, Suite 2400
Austin, Texas 78701
(512) 474-5201

Date: September 3, 2002

Form PTO-1449 (modified)		Atty. Docket No. UTSC:657US	Serial No. 09/883,109
List of Patents and Publications for Applicant's INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Applicant Peter Gascoyne <i>et al.</i>	
		Filing Date: June 14, 2001	Group: 1741
U.S. Patent Documents See Page 1	Foreign Patent Documents See Page 2	Other Art See Page 3	

RECEIVED
SEP 9 - 2002
TC 1700

U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A1	4,333,086	6/1/82	Ebi	346	140	6/18/80
	A2	4,390,403	6/28/83	Batchelder	204	180	7/24/81
	A3	5,126,022	6/30/92	Soane <i>et al.</i>	204	180.1	2/28/90
	A4	5,344,535	9/6/94	Betts <i>et al.</i>	204	183.1	4/27/93
	A5	5,454,472	10/3/95	Benecke <i>et al.</i>	209	127.1	8/19/92
	A6	5,486,337	1/23/96	Ohkawa	422	100	2/18/94
	A7	5,569,367	10/29/96	Betts <i>et al.</i>	204	547	1/27/95
	A8	5,571,401	11/5/96	Lewis <i>et al.</i>	205	787	3/27/95
	A9	5,593,290	1/14/97	Greisch <i>et al.</i>	417	478	12/22/94
	A10	5,632,957	5/27/97	Heller <i>et al.</i>	422	68.1	9/9/94
	A11	5,653,859	8/5/97	Parton <i>et al.</i>	204	450	1/21/94
	A12	5,683,569	11/4/97	Chung <i>et al.</i>	205	775	2/28/96
	A13	5,795,457	8/18/98	Pethig <i>et al.</i>	204	547	6/5/95
	A14	5,814,200	9/29/98	Pethig <i>et al.</i>	204	547	3/31/94
	A15	5,858,192	1/12/99	Becker <i>et al.</i>	204	547	10/18/96
	A16	5,888,370	1/12/99	Becker <i>et al.</i>	204	547	10/18/96
	A17	5,965,452	10/12/99	Kovacs	436	149	7/9/96
	A18	5,993,630	11/30/99	Becker <i>et al.</i>	204	547	1/31/96
	A19	5,993,631	11/30/99	Parton <i>et al.</i>	204	547	7/8/97
	A20	5,993,632	11/30/99	Becker <i>et al.</i>	204	547	2/1/99
	A21	6,010,616	1/4/00	Lewis <i>et al.</i>	205	787	12/8/97
	A22	6,017,696	1/25/00	Heller	435	6	7/7/94
	A23	6,024,925	2/15/00	Little <i>et al.</i>	422	100	1/23/97

25151534.1

EXAMINER:

DATE CONSIDERED:

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)

Form PTO-1449 (modified)

List of Patents and Publications for Applicant's

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Atty. Docket No.
UTSC:657USSerial N .
09/883,109Applicant
Peter Gascoyne *et al.*Filing Date:
June 14, 2001Group:
1741U.S. Patent Documents
*See Page 1*Foreign Patent Documents
*See Page 2*Other Art
See Page 3

U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A24	6,090,251	7/18/00	Sundberg <i>et al.</i>	204	453	6/6/97
	A25	6,093,308	7/25/00	Lewis <i>et al.</i>	205	787	2/26/99
	A26	6,099,803	8/8/00	Ackley <i>et al.</i>	422	68.1	2/20/98
	A27	6,113,768	9/5/00	Fuhr <i>et al.</i>	204	643	12/23/94
	A28	6,129,828	10/10/00	Sheldon, III <i>et al.</i>	204	518	9/6/96
	A29	6,130,098	10/10/00	Handique <i>et al.</i>	436	180	9/26/97
	A30	6,159,188	12/12/00	Laibovitz <i>et al.</i>	604	294	11/2/98
	A31	6,165,417	12/26/00	Swierkowski	422	100	10/26/98
	A32	6,221,653 B1	4/24/01	Caren <i>et al.</i>	435	287.2	4/27/99
	A33	6,224,745 B1	5/1/01	Baltruschat	205	775	3/5/98
	A34	6,225,059 B1	5/1/01	Ackley <i>et al.</i>	435	6	1/29/99
	A35	6,287,832 B1	9/11/01	Becker <i>et al.</i>	435	173.9	9/14/99
	A36	6,294,063 B1	9/25/01	Becker <i>et al.</i>	204	450	2/12/99

Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Class	Sub Class	Translation Yes/No
	B1	EP 0513064	11/19/92	Europe			
	B2	EP 0625267	11/23/94	Europe			
	B3	EP 0680380	11/8/95	Europe			
	B4	EP 0691891	1/17/96	Europe			
	B5	EP 0898493	3/3/99	Europe			
	B6	WO 00/47322	8/17/00	PCT			
	B7	WO 00/69565	11/23/00	PCT			

25151534.1

EXAMINER:

DATE CONSIDERED:

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

Form PTO-1449 (modified)

List of Patents and Publications for Applicant's

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Atty. Docket No.

UTSC:657US

Serial No.

09/883,109

Applicant

Peter Gascoyne *et al.*

Filing Date:

June 14, 2001

Group:

1741

U.S. Patent Documents

See Page 1

Foreign Patent Documents

See Page 2

Other Art

See Page 3

Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Class	Sub Class	Translation Yes/No
	B8	WO 93/16383	8/19/93	PCT			
	B9	WO 94/16821	8/4/94	PCT			
	B10	WO 97/34689	9/25/97	PCT			
	B11	WO 99/36176	7/22/99	PCT			
	B12	WO 99/62622	12/9/99	PCT			

Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C1	"Bangor biochip heads for California," EPSRC Home Page: http://www.epsrc.ac.uk/documents/about_epsrc/corporate_publications/bangor.ht , article printed on December 26, 2000.
	C2	"Diagnostic dielectrophoresis-on-a-chip," <i>Science/Technology</i> , 77(8):32, 1999. Article printed from http://pubs.acs.org/hotartcl/cenear/99022/7708scitobox2.html on December 26, 2000.
	C3	Allsopp <i>et al.</i> , "Impedance technique for measuring dielectrophoretic collection of microbiological particles," <i>J. Phys. D: Appl. Phys.</i> , 32:1066-1074, 1999.
	C4	Balachandran <i>et al.</i> , "Electrostatic atomization of conducting liquids using AC superimposed on DC fields," <i>IEEE Transactions on Industry Applications</i> , 30(4):850-854, 1994.
	C5	Cheng <i>et al.</i> , "Preparation and hybridization analysis of DNA/RNA from <i>E. coli</i> on microfabricated bioelectronic chips," <i>Nature Biotechnology</i> , 16:541-546, 1998.
	C6	El-Kishky and Gorur, "Electric field and energy computation on wet insulating surfaces," <i>IEEE Transaction on Dielectrics and Electrical Insulation</i> , 3(4):587-593, 1996.
	C7	El-Kishky and Gorur, "Electric field computation on an insulating surface with discrete water droplets," <i>IEEE Transactions on Dielectrics and Electrical Insulation</i> , 3(3):450-456, 1996.
	C8	Fuller <i>et al.</i> , "Microfabricated multi-frequency particle impedance characterization system," <i>Micro Total Analysis System</i> , van den Berg <i>et al.</i> (eds.), 265-268, 2000.
	C9	Galicki <i>et al.</i> , "Electrohydrodynamic atomization of dielectric fluids," <i>Conference on Electrical Insulation and Dielectric Phenomena</i> , IEEE Annual Report, 365-368, 1996.

25151534.1

EXAMINER:

DATE CONSIDERED:

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)

Form PTO-1449 (modified)

List of Patents and Publications for Applicant's

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Atty. Docket No.
UTSC:657USSerial No.
09/883,109Applicant
Peter Gascoyne *et al.*Filing Date:
June 14, 2001Group:
1741U.S. Patent Documents
*See Page 1*Foreign Patent Documents
*See Page 2*Other Art
See Page 3

Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C10	Gawad <i>et al.</i> , "Impedance spectroscopy cell analysis in microchannels," <i>Micro Total Analysis Systems</i> , 253-255, 2001.
	C11	Gawad <i>et al.</i> , "Micronarcined impedance spectroscopy flow cytometer for cell analysis and particle sizing," <i>Lab on a Chip</i> , 1:76-82, 2001.
	C12	He <i>et al.</i> , "Droplet charge-to-mass ratio measurement in an EHD liquid-liquid extraction system," <i>IEEE Transactions on Industry Applications</i> , 32(1):146-154, 1996.
	C13	Higashiyama <i>et al.</i> , "Behavior of water droplets located on a hydrophobic insulating plate under DC field," <i>IEEE</i> , 1808-1813, 1998.
	C14	Hoffman and Britt, "Flow-system measurement of a cell impedance properties," <i>J. Histochemistry and Cytochemistry</i> , 27:234-240, 1979.
	C15	Hoffman <i>et al.</i> , "Flow cytometric electronic direct current volume and radiofrequency impedance measurements of single cells and particles," <i>Cytometry</i> , 1:377-384, 1981.
	C16	Hosokawa <i>et al.</i> , "Handling of picoliter liquid samples in a Poly(dimethylsiloxane)-based microfluidic device," <i>Anal. Chem.</i> , 71:4781-4785, 1999.
	C17	Huneiti <i>et al.</i> , "Harmonic spraying of conducting liquids employing AC-DC electric fields," <i>IEEE Transactions on Industry Applications</i> , 34(2):279-285, 1998.
	C18	Jones, <i>Electromechanics of Particles</i> , Cambridge University Press, Cambridge, Chapter 3:34-82, 1995.
	C19	Kashyap and Gratzl, "Electrochemistry in microscopic domains. 1. The electrochemical cell and its voltammetric and amperometric response," <i>Anal. Chem.</i> , 70:1468-1476, 1998.
	C20	Kloes and Koenig, "Basic investigation of the performance of droplets on electrically stressed polymer surfaces," <i>Conference on Electrical Insulation and Dielectric Phenomena</i> , IEEE Annual Report, 374-377, 1997.
	C21	Lee and Kim, "Liquid micromotor driven by continuous electrowetting," <i>IEEE</i> , 538-543, 1998.
	C22	Metwally, "Electrostatic charging and modeling of aqueous sprays and fission of droplets," <i>Conference on Electrical Insulation and Dielectric Phenomena</i> , IEEE Annual Report, 117-120, 1996.
	C23	Mizuno <i>et al.</i> , "Behavior of water droplets on silicone rubber sheet under AC voltage application," <i>IEEE</i> , 96-99, 1998.

25151534.1

EXAMINER:

DATE CONSIDERED:

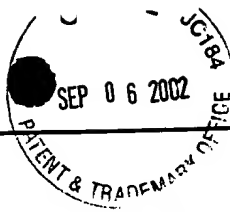
EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.

Form PTO-1449 (modified)

List of Patents and Publications for Applicant's

INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)



Atty. Docket No.

UTSC:657US

Serial No.

09/883,109

Applicant

Peter Gascoyne *et al.*

Filing Date:

June 14, 2001

Group:

1741

U.S. Patent Documents

See Page 1

Foreign Patent Documents

See Page 2

Other Art

See Page 3

Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C24	Moesner <i>et al.</i> , "Electrostatic devices for particle microhandling," <i>IEEE Transactions on Industry Applications</i> , 35(3):530-536, 1999.
	C25	Sathuvalli and Bayazitoglu, "The lorentz forces on an electrically conducting sphere in an alternating magnetic field," <i>IEEE Transactions on Magnetics</i> , 32(2):386-399, 1996.
	C26	Sato <i>et al.</i> , "Experimental investigation of droplet formation mechanisms by electrostatic dispersion in a liquid-liquid system," <i>IEEE Transactions on Industry Applications</i> , 33(6):1527-1534, 1997.
	C27	Sato <i>et al.</i> , "Production of oil/water type uniformly sized droplets using a convergent AC electric field," <i>IEEE Transactions on Industry Applications</i> , 32(1):138-145, 1996.
	C28	Wang <i>et al.</i> , "A theoretical method of electrical field analysis for dielectrophoretic electrode arrays using Green's theorem," <i>J. Phys. D: Appl. Phys.</i> , 29:1649-1660, 1996.
	C29	Wang <i>et al.</i> , "Separation of polystyrene microbeads using dielectrophoretic/gravitational field-flow-fractionation," <i>Biophysical Journal</i> , 74:2689-2701, 1998.
	C30	Washizu, "Electrostatic actuation of liquid droplets for microreactor applications," <i>IEEE Transactions on Industry Applications</i> , 34(4):732-737, 1998.
	C31	Co-Pending U.S. Patent Application Serial Number 10/028,945 by Peter Gascoyne <i>et al.</i> , filed December 20, 2001.

RECEIVED
SEP-9-2002
TC 1700

25151534.1

EXAMINER:

DATE CONSIDERED:

EXAMINER: INITIAL IF REFERENCE CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED. INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.